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Benjamin Ball

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# Ball-Nogues Studio

## Interview with Benjamin Ball

Benjamin Ball is a founding partner, along with Gaston Nogues, of Ball-Nogues Studio in Los Angeles. The staff conducted this interview in May 2009.

*As you know, the theme of this issue is “Untrained”. Our first impulse was to focus exclusively on projects designed by non-architects, which fall into roughly three camps: backyard castles, artist installations, and contractor houses. While it had the potential to make for a fascinating read, this approach failed to take into account the possibility of licensed architects operating outside the regimen of traditional architectural education; that is, architects behaving as if they were untrained. We as students are critical of our educational culture, which heavily emphasizes the representational side of design while giving less attention to the basic objective: building.*

*With that in mind, could you tell us about your training? Where did you learn your best and worst habits? What shaped your interests?*

My training began during childhood. I had a lot of experiences as a kid that helped provoke awareness of the built environment as something that could be affected through design. I develop intuition that I wouldn’t have today were it not for these experiences. My brother and I always built things: haunted houses, tree houses, forts, imaginary cities, stuffed animal hospitals. He is older than I am, so keeping up with his skills continually challenged me. My mother worked in theater and she would take me backstage to watch the crew design









and build sets. I was able to see how the stage went from being a black box to the set designer's vision over a few weeks. This inspired me to focus on designing things at a very young age: I drafted, houses, spaceships, cars. I also looked at a lot of architecture on family trips to Chicago – Wright, Mies, Sullivan and Saarinen.

I didn't focus on design or visual art in high school but while studying in England during my first term of college I had a class on English Architecture and was reminded of how much I enjoyed drawing and thinking about architecture and the city. The instructor expected us to observe while walking in Oxford and London, then draw and write about what we had seen. It was similar in a sense to my experiences as a child while on trips to Chicago or while wandering through my hometown of Cedar Falls, Iowa.

My academic training was at two schools – the University of Colorado and SCI-Arc. SCI-Arc introduced me to a variety of established design methodologies while providing an environment where I could explore influences from outside the field. I often felt a bit out of place; I was never entirely comfortable with the prospect of only designing buildings; nor was I comfortable with the idea of swimming in an ocean of pure theory. These options seemed quite abstract to me and divorced from my understanding of architecture as a collection of experiences in space. I wasn't comfortable with the fact that many of us would never have the opportunity to build something that even aspired to be Architecture; architects were essentially powerless. Finance and politics were in charge of architecture. Most of us would never realize the grandiose schemes we proposed in school or bridge the gap between theory and practice. I wanted to speculate and be critical but I also wanted to build. It seemed almost impossible to marry these interests.

I worked in film for seven years; this was crucial to my development. Not

satisfied with the options afforded to a recent architecture graduate in the recession economy of the mid nineties; I chose to work as a set designer, art director and production designer for movies, commercials and music videos. I was drawn to the immediacy of the construction process. It gave me a sense that as a young person, I could actually realize something I had imagined; it wasn't Villa Savoye, but it was something tangible in meatspace – it was an opportunity to rapidly move from a concept, to a sketch, to construction drawings to a physical construct, to an experience. I was also drawn to the technology: lighting, cameras, the emerging digital effects field, and construction techniques such as vacuform, fiberglass and rigging. These crafts were not influencing architectural education at the time; so they productively contaminated my formal training.

My best and worst habits are the same thing – I have a short attention span. This can mean that my interests as a designer wander but it also means that I bring a lot of outside influences to the work.

*You and Gaston co-teach at SCI-Arc. How do you lead the studio? What do you direct the students to think about? What habits do your students come in with, and how do you encourage them to mature?*

In our Coachella studio at SCI-Arc we asked students "What do you have the power to achieve right now? How can you affect the physical environment given the technology, techniques, and material resources available to you within a 14 week term and a \$15,000 budget?" We believe these are vital questions for students today, given that the techniques and tools available to them are so sophisticated compared to what was available when we were in school. Our goal was to encourage them to move beyond making pictures and telling stories to harnessing the power of computation to manipulate

attainable materials using available tools. This does not mean using CAD to make construction drawings, it means using software to aid in a negotiation with material during the design process.

It is empowering for designers to innovate production techniques. A lot of students tend to accept techniques of building as givens, so we pushed them to invent computation and fabrication processes, discover a field of potential surrounding those processes; then think expansively within that field. The value of digital design tools lies not only in making magnificent visualizations, animations, and exotic forms, but also in coupling information with material to yield physical things. To do this with limited financial resources students would have to think creatively about production; they would have to "design production" before designing form.

There is a mode of practice that I see being reinforced in schools that I loosely refer to as the architect as stylist - the Zaha Hadid model. A designer expresses a formal intent then, hopefully, somebody figures out how to build it. Alternatively, it will be a work of paper architecture. It is not a critique of the stylist model but an alternative. The stylist model is great for a lot of people, but some of us will never have the political or financial power necessary to realize work were we to abide by it, and some of us don't want our ideas to remain exclusively on paper, so we have to find an alternative. We want students to feel that they can have an experimental practice that focuses on building regardless of their financial situation and their political power. A comparison can be made to filmmaking where aspiring directors work through ideas by making short films; they typically don't start out making feature films like Citizen Kane or Dr. Strangelove. I find it odd that architecture schools often focus on teaching students to make the rough equivalent of grandiose feature films rather than a short film that will actually have a chance of being

produced.

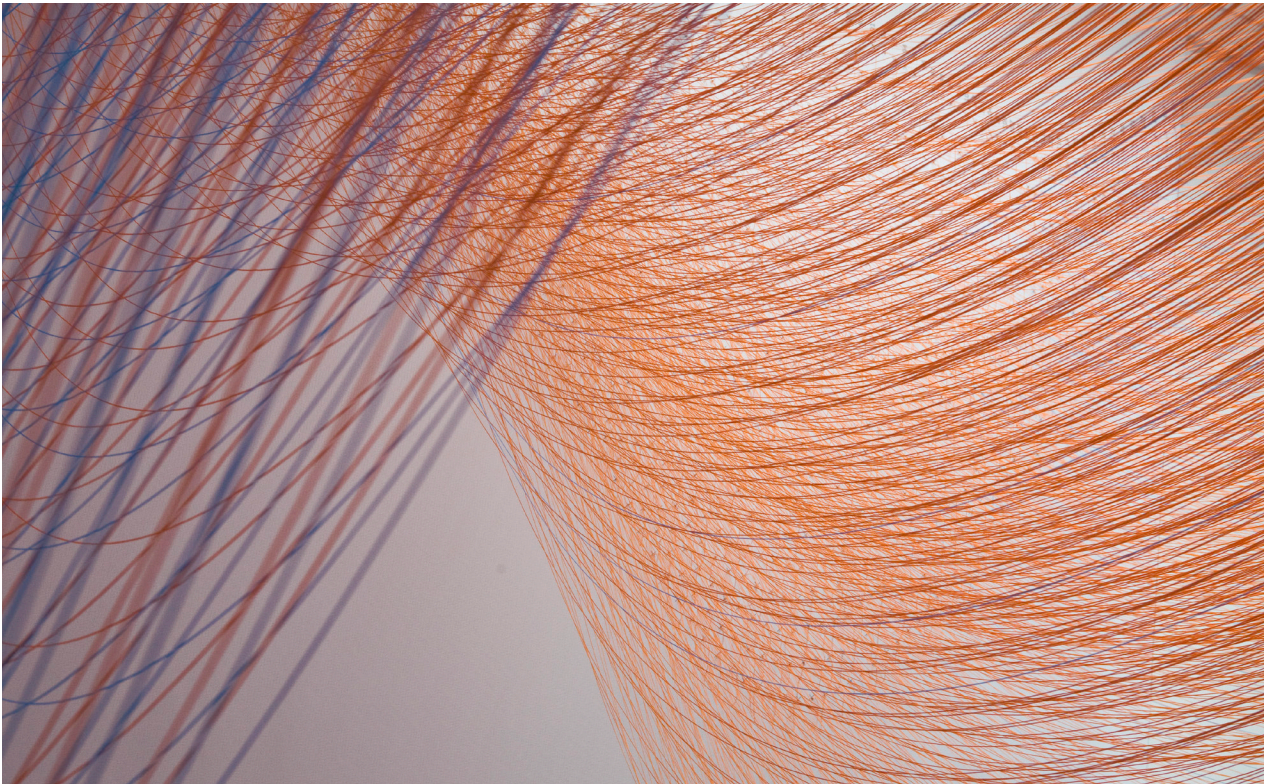
I think that "festival art" structures for events like Coachella can provide this alternative. As design problems they are unconstrained with respect to program and site response (they literally lie in an open field), but they require absolute pragmatism with respect to budget, fabrication and logistics. It's an inversion of the academic design studio model where students work within the parameters of program and site imposed by the instructor but rarely look at feasibility. In the Coachella studio, the student was free to invent program and site constraints but without taking their eyes off of feasibility. The was to show that they can build something extraordinary while demonstrating an understanding of it as system at the nexus of a set of time, economic, and logistical influences. This pushes students into a situation where there are consequences for their decisions; where they cannot cover up the inadequacies of a design through the illusion of a rendering but without falling into a kind of conventional pragmatism.

For Coachella, the student's interests fell into three camps: effects arising from structure, atmospheric effects generated through light and water, and kinetic systems. Although the final project was for a real client and had a real budget of 15k, there were no programmatic mandates in the conventional sense; students had to invent their own programs. What does program mean for a piece of festival art? It could be shade, an immersive visual experience, or maybe a seating structure that responds to body weight; it is not as clearly delineated as when designing a building. We tried to get students to constrain their ambitions to a range of structural and experiential options; we then helped them develop methods of modeling their structures that would yield meaningful information for the building process.

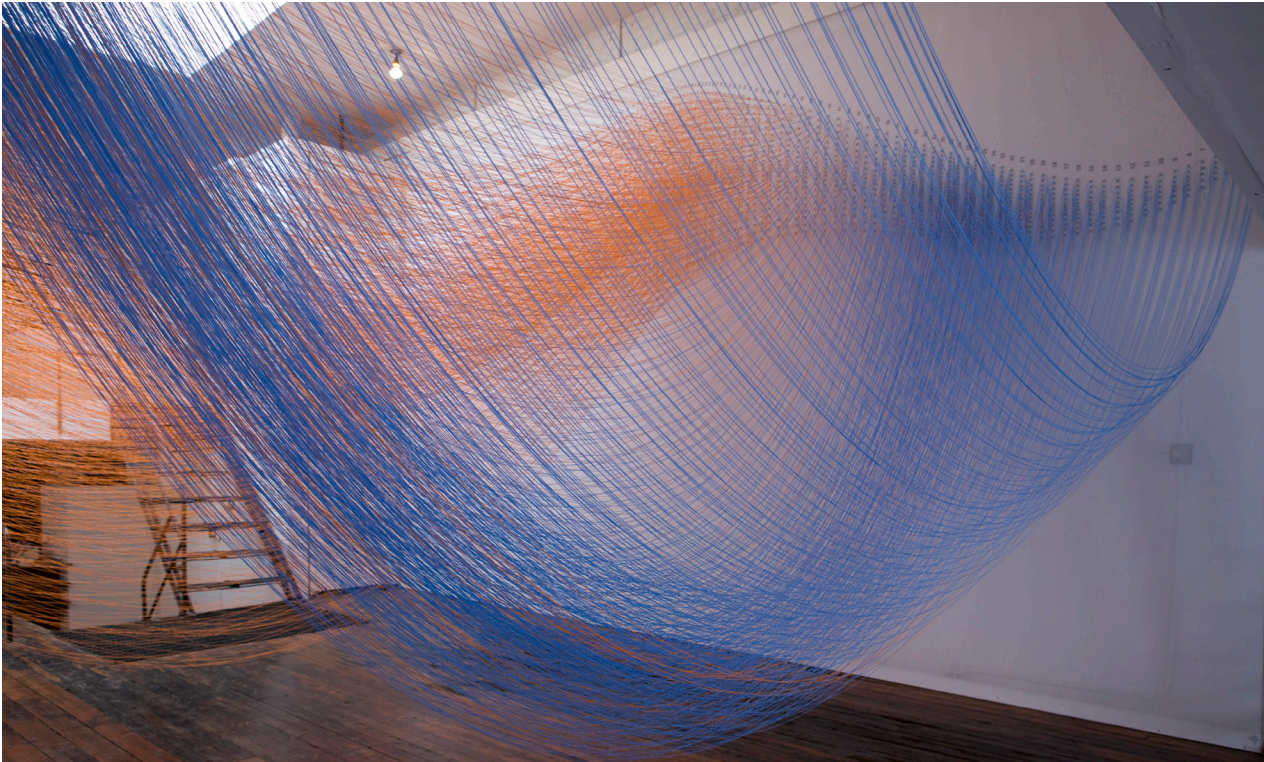


I'm not a particularly experienced teacher, but I've found one of the most challenging habits to help students to overcome is their tendency to believe in what they see on their computer screens. Many have learned in an almost exclusively digital environment. This can be a problem because the software that students use does not account for material properties. Their computer models contain less information than physical models. They are working with machines whose image making capabilities, to quote Richard Sennett, "repress difficulty" by making a picture of a building look "impossibly coherent". The thinking goes, if you can make the picture coherent, you have a coherent idea: the students believe in the rendering. I'm not sure that this thinking always serves students or the profession in the end so we try to show them that their digital models contain incomplete and untested information about materials, systems of assembly, structure, and user experiences. With this in mind, we encourage them to build full-scale mock-ups and analytical test models so that they start a dialog with material: a feed-back loop.

There seems to be contempt for labor within the design community that gets passed along to students. It is a sense that perhaps physical work is not in the purview of the architect. I argue against this on a couple of fronts. First, knowledge developed through the practice of craft is embodied within the motions of the body and is very difficult to unpack as theory but it has value for design nonetheless. Second, the value of thoughtful design is lost on most of the general public. We are working in an impoverished profession, so it might be good to accept the present state of things and get busy sweeping the floor because chances are nobody is going to do it for you. We've been lucky to realize some of our work, but it has required that we wear every hat from designer, to builder, to theorist, to janitor.



1. Unseen Current was like a billow of fog flowing through Extension Gallery in Chicago. Two thousand six hundred strings (or catenaries) hanging under self-weight yielded this diaphanous site-specific installation. Totalling ten miles in length, the strings spanned between the walls of the gallery, each one in precise relation to its neighbors.



2. Reading more like a three dimensional drawing of a wave-form rather than a solid, the project subverted the conventional notion of architectural "poche" by implying solidity through a dense assemblage of catenaries. When viewed from the front of the gallery, the three dimensional matrix suggested an object; upon navigating through its enigmatic form, the effect was of falling snow viewed through the windshield of a speeding car. Inspired by hues in the smoggy skies of Los Angeles, the installation gradated from a rich orange to cerulean using only two colors of string.





3. Copper Droopscape was a study in non-standard modularity. While it employed a uniform cell dimension, each of its 864 parts was unique. The standard cell made field assembly manageable, while each part's non-uniform aspects – the form and proportions of the hanging tendril – yielded a rich visual and aural experience.



4. Unlike conventional fabric structures designed to resist the force of wind, Copper Droopscape actively engaged the breeze. The complex, 90-foot canopy translated wind energy into sensuous motions that festival goers compared to the sea, or a kelp forest undulating beneath the waves – both delicious metaphors for a cool sanctuary, given the installation's unforgiving desert site. The motion of the translucent canopy resulted in a hypnotic effect as light passed through and reflected off the Mylar network. In a light breeze, the canopy made a gentle rustling sound; during gusts, it clapped loudly.



*Your students recently built a pavilion at the Coachella music festival. It's quite beautiful. But what's perhaps more remarkable is that they proved its realization--it didn't end its life as a sexy rendering, as so many student projects do. In fact, most of your projects are presented without such images. If you have any renderings at all, they seem more like screenshots than showpieces. And of course you show your many mockups as well. Is this because of the nature of your clientele--they don't necessarily need to be wowed by visionary diagrams? Or is it because your projects are so focused on their realization that such images are just a distraction? How do you imagine and present concept?*

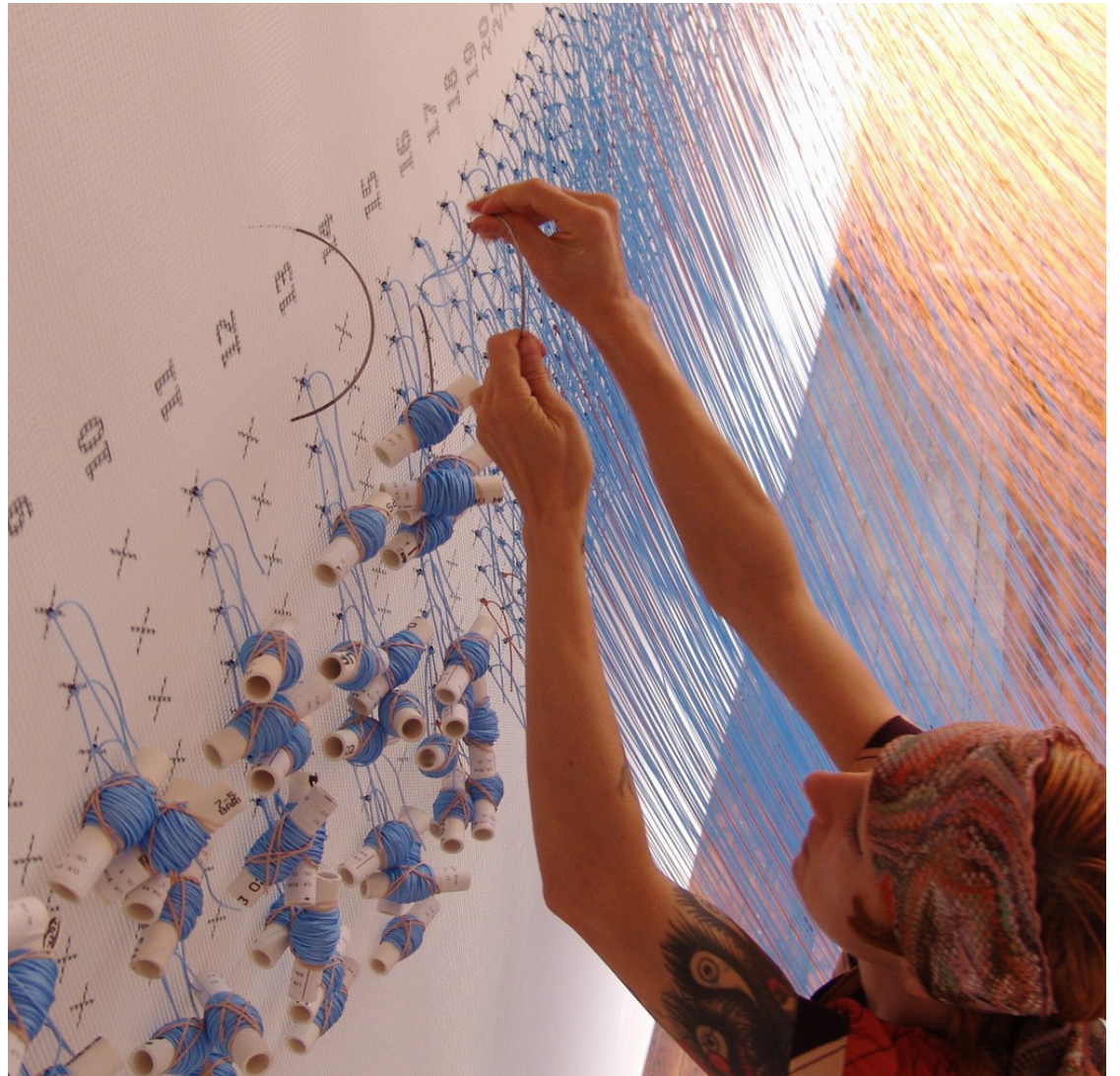
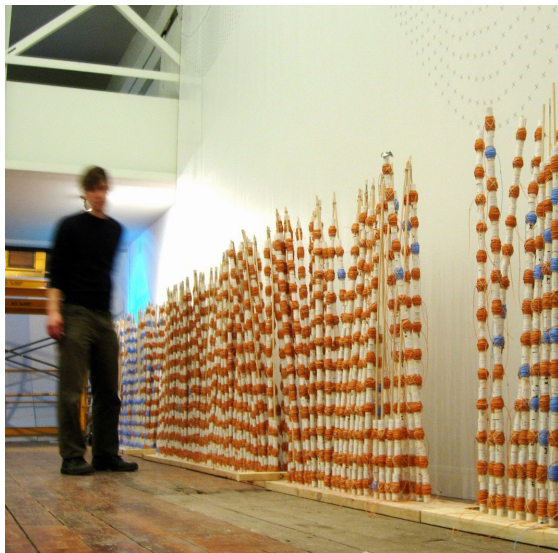
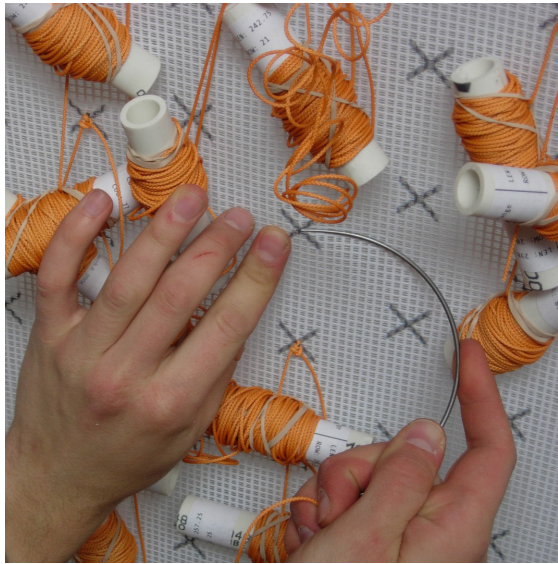
You are correct on both points about renderings. With respect to our temporary works, these afford some of the effects of architectural encounters while working outside of the constraints of architectural practice – so we can circumvent a few of the orthodoxies – like renderings – of the architect, client, and builder relationship.

Although we fall loosely into what might be called an “experimental” architecture camp, our reputation is based more on built works than speculations on paper. If the person paying for a project believes in our history, we can often persuade them to move forward by providing a cogent description of the design and fabrication process along with rudimentary renderings and diagrams. We like this situation because it allows us, as you have suggested, to focus deeply on the development and realization of the project without getting distracted by a procedure that in our case does not always advance the design process. Renderings don't often help us internally because the design of the form and the precise materiality of a project comes after the design of the project's production; we don't typically think of form independent of production – that's not ideology,

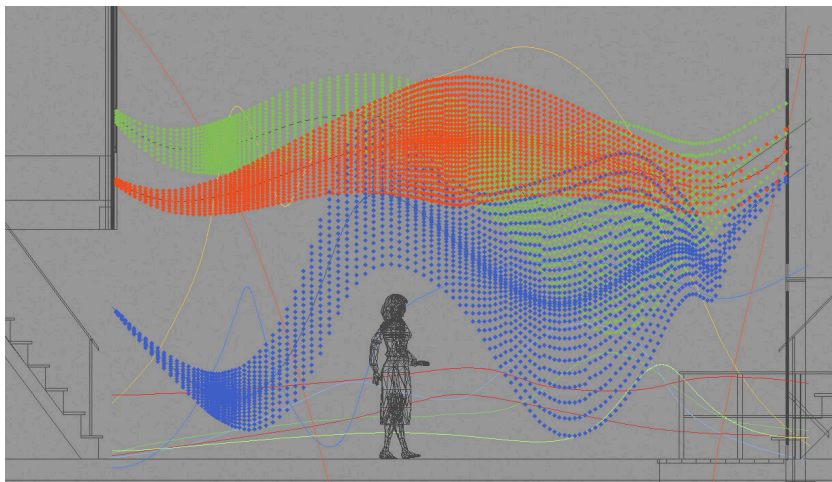


5. Created for a triangular passage space at the 11th Venice Biennale of Architecture in 2008, *Echoes Converge* again used catenaries as fundamental non-standard components. The project married characteristics from two distinct ceiling traditions: the contemporary suspended ceiling (a system that is inexpensive, modular, and easy to install) and the Renaissance coffered ceiling (an area of exploration into both mathematical tiling systems and opulent visual effects).

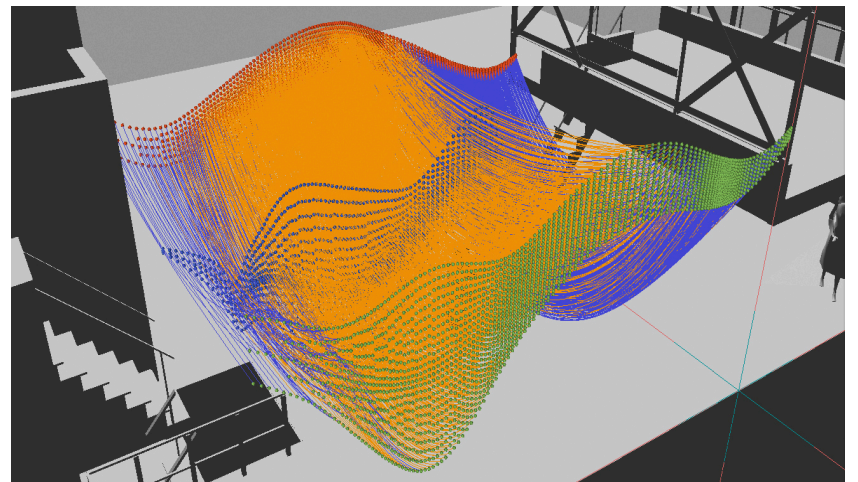




6. A challenge during the development of Unseen Currents was to design a methodology that tightly integrated concept, computation, and fabrication.

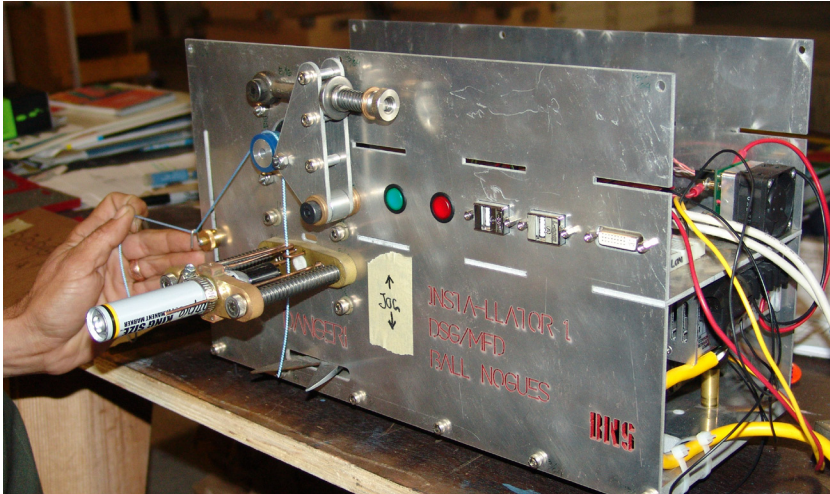


7. We worked with Pylon Technical to develop custom software that enabled us to explore the form, manage the thousands of strings, and expedite fabrication. Formal exploration and revisions were fluid and effortless: rather than drawing and measuring the length of each string, we sketched the qualities of the installation in general terms.



8. The software then automatically generated the thousands of catenaries, computed their lengths, and prepared labels to locate each string once cut. The design choices and logistics were "front loaded" to save time by reducing on-site management and fabrication complexity while allowing a team of six people to assemble Unseen Current in just seven days.





9. We aimed to resist the limiting presuppositions and economic flimflam embedded in commercial software and existing architectural fabrication techniques by developing a new tool: the Insta-Lator, an automatic computer controlled cutting apparatus.



10. Using custom software, we explored the form of the installation, and then sent construction data to the Insta-Lator. The machine automated the mind-numbing process of cutting thousands of unique lengths of string.



11. As a combined design and production system, the software and Insta-Lator enabled the installation to function as architecture but also as a made-to-order product, rapidly deployable by the designer or owner.





it is what enables us to get complex structures built. The development of a mock-up propels a project further forward for us than a rendering. It is not a rule – we do have unrealized competition proposals that employ “money shot” type visualizations to convey our intent – these are just not currently on our website or in the press.

Provisional architecture exists in perpetuity as images, texts, and memories. These float around for a long time in blogs, Flickr, books, magazines, and iPhoto collections; they become historical documents. We would be excluding a good deal of the ideas that went into the work if we were to rely on renderings as historical documents. We usually aim to make works that will be understood as physical things that affect space in a tangible way and had an impact on the people who made them and inhabited them as well as on the flows of materials of which they are a part. There is a fundamental difference between a photograph and a rendering in this case.

The proliferation of images in the media, I believe, has a leveling effect. As I walk through schools and look at the work I sometimes think that the 2D medium of the digital rendering is the message: no matter how brilliant the ideas, they are expressed in a manner that has inherent limits. Nearly all of our experiences of architecture are mediated representations; so we try to question this. Currently, we want to contribute to an alternative discourse that happens between physical things or at least photographs of physical things

*Your projects are mostly at the scale of the installation. Is this by choice? Have you thought about how your current technique—digitally choreographed assemblages of gossamer components—could be adapted to a larger building? It seems you can pay much more attention to the material properties of your projects when the other constraints are limited and apparent.*

People often ask us “when are you going to do a building?” It’s a legitimate question but it is worth considering that Ball-Nogues Studio has been in existence for only four years; that’s about the amount of time necessary to design and build a big custom house. Our practice is very young, so we are only now seeing some of our permanent works coming to fruition.

We are living in a time when an immense assortment of ideas about computation and fabrication are making their way into architecture. This isn’t going to happen only through making drawings and talking; it’s going to happen through directly experimenting with materials and processes as a form of research. We have built the skills and facilities to do this; we have set in motion a practice that emphasizes building. We have a large design and fabrication space in LA that houses a lot of tools. A lot of people in architecture just don’t see this as a viable way of working because they don’t possess the building skills, don’t own the equipment, or are operating within a very different professional paradigm

Had we focused strictly on trying to initiate building projects, teaching or doing competitions, the odds are we would not yet have built anything and you probably would not be interviewing me. We continue to develop installations, temporary public art, festival structures, and exhibitions because they compliment our permanent work but also because they reflect a cultural shift toward temporary spatial practices doing some of what buildings do. We believe that recontextualizing these spatial events reflects both their mediated longevity and their physical impermanence. What keeps them culturally relevant is the rapid consumption of images propagated by designers. Architects can almost never match this pace because permanent building construction moves at a snail’s pace while discourse via electronic media is nearly instant. So, on the one hand we are building

them to keep our hands in full scale material and structural exploration and on the other because it enables us to be a part of this discourse.

In a world without large amounts of capital to finance buildings, the choice to focus on provisional projects is also economic: where do we turn to shape physical space when there is nobody paying for buildings? Provisional structures, which do not involve large financial risks, can provide powerful effects that buildings provided in the past. I think that the perception of provisional work as something “other” than architecture is changing. So we see installation as both an end in itself and as a compliment to our permanent work.

The computational and fabrication processes we develop for our installations make their way into our permanent work. Sometimes we intend this at the beginning of the development of an installation and at other times we see more potential for a process after an installation is over. For example, we are currently developing a structural skin of variable petals made of flexible stainless steel. This evolved out of the “shagged surface” concept from our installations Maximilian’s Schell and Liquid Sky at P.S.1. It will debut as a new, permanent wild life observation structure for a client in Woodstock, N.Y. It’s a gossamer assemblage of parts - but that’s what we have the power to build right now.

*If you were the kings of SCI-Arc, what would be your first decree?*

We’re still pondering that.

Project Credits

Project: Copper Droopscape  
Designers and Principals in Charge: Benjamin Ball and Gaston Nogues  
Project Manager: Andrew Lyon  
Project Design and Development Team: Ben Dean, Andrew Lyon  
Project Construction Team: Benjamin Ball, Chris Ball, Jodie Bass, Mark Bowman, Ryan Davis, Ben Dean, Martina Dolejs, Melissa Sophia Drocles, Christine Eyer, Richie Garcia, Eddie Gonzales, Oliver Hess, Josh Levine, Andrew Lyon, Reid Maxwell, Pie San Ng, Gaston Nogues, Charon Nogues, Nick Paradowski, Michelle Paul, Sarah Peyton, Geoff Sedillo, Andy Summers, Elizabeth Tremante, William Trossell, Erica Urech, Johanna Zuckerman  
Software Development: Pylon Technical  
Structural Consultants: Buro Happold, Los Angeles  
Photography: Alex Aristi, Chris Ball

Project: Unseen Current  
Designers and Principals in Charge: Benjamin Ball and Gaston Nogues  
Project Team Los Angeles: Ben Dean, Mark Bowman, Michael Ferrante  
Project Team Chicago: Christopher Bartek, Lindsay Grote, Jack Donoghue, Kasia Mielniczuk, Pei San Ng, Marine Manigault, Martina Dolejs, Cady Chintis, John Wolters, Ryan Johnson, Dana Andersen, Melodi, Zarokol, Sarah Forbes, Bryant Pitak, Kathryn McRay, Christina Halatsis, Vince Rivera, Kate Cain, Mariga Medic  
Curator: Paula Palombo  
Photography: Michelle Litvin

Project: Echoes Converge  
Designers and Principals in Charge: Benjamin Ball and Gaston Nogues  
Project Team Los Angeles: David Bantz, Mark Bowman, Ben Dean, Martina Dolejsova, Chris Lin, Andrew Lyon  
Project Team Venice: Martina Dolejsova, Andrew Lyon, Laura Millevoi, William Trossell  
Curators: Aaron Betsky and Emiliano Gandolfini  
Photography: Eric Holm



